

Amendments to the Claims

1. (Currently Amended) An automatic toilet room flush valve, comprising:
a valve body including an inlet and an outlet and a valve seat inside said body;
a valve member cooperatively arranged with said valve seat, said valve member being constructed and arranged to control water flow between said inlet and said outlet, movement of said valve member between open and closed positions being controlled by water pressure inside a pilot chamber; and

an external cover designed for enclosing an electronic control module comprising a battery, and a sensor and said external cover enclosing an actuator for controlling operation of said flush valve, said external cover including at least two cover parts separately removable, said external cover being attachable with respect to said valve body in a manner also removably attaching said control module located and sealed inside ~~including~~ a plastic housing.

2. (Currently Amended) An automatic toilet room flush valve, comprising:
a valve body including an inlet and an outlet and a valve seat inside said body;
a valve member cooperatively arranged with said valve seat, said valve member being constructed and arranged to control water flow between said inlet and said outlet, movement of said valve member between open and closed positions being controlled by water pressure inside a pilot chamber; and

an external cover designed for enclosing an electronic control module comprising a battery, and a sensor and for enclosing an actuator for controlling operation of said flush valve, said external cover including at least a main cover body and a top cover separately removable, said external cover being attachable with respect to said valve body in a manner also removably attaching said control module,

wherein both said main cover body and said top cover of said external cover are ~~being~~ removable to enable separate servicing and replacement of said control module while maintaining said water pressure in said pilot chamber.

3. (Original) The flush valve of claim 1 wherein said external cover includes said cover parts forming a main cover body, a front cover and a top cover, said front cover including a sensor window.

4. (Original) The flush valve of claim 2 wherein said main cover body provides overall rigidity to said external cover.

5. (Previously Presented) The flush valve of claim 2 further including a front cover including a sensor window.

6. (Previously Presented) The flush valve of claim 5 wherein said sensor is an optical sensor and said sensor window includes an optical window.

7. (Original) The flush valve of claim 6 further constructed to adjust detection sensitivity of said sensor while maintaining said optical window located on said main cover body.

8. (Original) The flush valve of claim 2 wherein said top cover includes at least one side surface designed for facilitating removal of said top cover.

9. (Original) The flush valve of claim 2 wherein said top cover is attached with respect to said valve body using at least one screw.

10. (Currently Amended) An automatic toilet room ~~[[The]]~~ flush valve of claim 9, comprising:

a valve body including an inlet and an outlet and a valve seat inside said body;
a valve member cooperatively arranged with said valve seat, said valve member
being constructed and arranged to control water flow between said inlet and said outlet,
movement of said valve member between open and closed positions being controlled
by water pressure inside a pilot chamber; and

an external cover designed for enclosing an electronic control module comprising a battery, and a sensor and for enclosing an actuator for controlling operation of said flush valve, said external cover including at least a main cover body and a top cover separately removable, said external cover being attachable with respect to said valve body in a manner also removably attaching said control module,

wherein both said main cover body and said top cover of said external cover are removable to enable separate servicing and replacement of said control module while maintaining said water pressure in said pilot chamber,

wherein ~~tightening of said at least one screw attaches~~ said main cover body, said front cover, and said top cover are attached by at least one screw to a pilot cap defining said pilot chamber and being attached to said valve body.

11. (Original) The flush valve of claim 2 wherein said top cover includes a button constructed to move between upper and lower positions and designed for manually triggering a flush cycle when pushed to said lower position.

12. (Original) The flush valve of claim 11 further including a removable element designed for shipping and storage, said removable element being positioned to retain said button in said lower position when assembling said top cover.

13. (Previously Presented) The flush valve of claim 1 or 2 wherein said valve member includes a piston.

14. (Previously Presented) The flush valve of claim 1 or 2 wherein said valve member includes a flexible diaphragm.

15. (Currently Amended) The flush valve of claim 14 wherein said flexible diaphragm includes a centrally located passage connecting a relief passage and said outlet, said flexible diaphragm being retained with respect to said valve body by a pilot pressure cap defining said pilot chamber.

16. (Previously Presented) The flush valve of claim 15 including a bypass orifice in said diaphragm connecting said inlet with a pressure chamber inside said pressure cap, said orifice having a cross section area smaller than that of said passage.

Claims 17 – 22 cancelled

23. (Currently Amended) In an automatic toilet flush valve including a body having an inlet and an outlet, a valve assembly in said body constructed and arranged to open and close water flow from said inlet to said outlet upon actuation signals provided by an electronic system to an actuator, said automatic flush valve comprising:

a pilot pressure cap defining a pilot chamber in communication with said outlet via a relief passage controlled by said actuator receiving drive signals from said electronic system; and

a cover, mounted above said pilot pressure cap, constructed to provide housing for said electronic system, said cover being removable while maintaining water pressure inside said pilot pressure cap and enabling replacement of said electronic system while maintaining said ~~maintaining~~ water pressure inside said pilot pressure cap, said cover including at least two parts being held together using at least one screw attachable to said pilot cap.

24. (Currently Amended) In an automatic toilet flush valve including a body having an inlet and an outlet, a valve assembly in said body constructed and arranged to open and close water flow from said inlet to said outlet upon actuation signals provided by an electronic system to an actuator, said automatic flush valve comprising:

a pilot pressure cap defining a pilot chamber in communication with said outlet ~~output~~ via a relief passage controlled by said actuator;

a sensor, included in said electronic system, constructed to detect a user located in front of said flush valve and designed to provide control signals to said electronic

system, said electronic system being constructed to provide drive signals to said actuator; and

a cover mounted above said ~~pilot pressure~~ cap and constructed to provide housing for said electronic system, said cover being designed cooperatively with said electronic system to enable sensitivity adjustment of said sensor without removal of said cover.

25. (Original) The automatic flush valve of claim 23 or 24 wherein said sensor includes an infrared sensor.

26. (Original) The automatic flush valve of claim 23 or 24 wherein said sensor includes a presence sensor.

27. (Original) The automatic flush valve of claim 23 or 24 wherein said sensor includes a motion sensor.

28. (Currently Amended) The automatic flush valve of claim ~~[[23]]~~ 24 wherein said cover includes a main cover body, a front cover and a top cover, said front cover including a sensor window, wherein said main cover body, said front cover and said top cover being held together using at least one screw attachable to said pilot cap.

29. (Previously Presented) The automatic flush valve of claim 23 or 24 wherein said valve assembly includes a flexible diaphragm fixed relative to said pressure cap, said valve assembly including a bleed passage in said flexible diaphragm in communication with said pilot chamber and being controllably sealable by said actuator.

Claims 30 – 33 are cancelled

34. (Original) The automatic flush valve of claim 23 or 24 wherein said actuator

is an isolated actuator.

35. (Original) The automatic flush valve of claim 23 or 24 wherein said valve assembly includes a filter for filtering water passing toward said actuator.

36. (Original) The automatic flush valve of claim 32 wherein said filter is attached to said flexible diaphragm.

37. (New) The flush valve of claim 23 or 24 further including a button constructed to move between depressed and extended positions and designed for manually triggering a flush cycle when pushed to said depressed position.

38. (New) The flush valve of claim 37 further including a removable element designed for shipping and storage, said removable element being positioned to retain said button in said depressed position.

39. (New) The flush valve of claim 1 further including a button constructed to move between depressed and extended positions and designed for manually triggering a flush cycle when pushed to said depressed position.

40. (New) The flush valve of claim 39 further including a removable element designed for shipping and storage, said removable element being positioned to retain said button in said depressed position.

41. (New) The flush valve of claim 10 wherein said valve member includes a piston.

42. (New) The flush valve of claim 10 wherein said valve member includes a flexible diaphragm.

43. (New) The flush valve of claim 10 further including a button constructed to move between depressed and extended positions and designed for manually triggering a flush cycle when pushed to said depressed position.

44. (New) The flush valve of claim 43 further including a removable element designed for shipping and storage, said removable element being positioned to retain said button in said depressed position.